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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,614	06/29/2001	W. Paul Willes	4278.1 P	6788

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EXAMINER

ZHENG, EVA Y

ART UNIT PAPER NUMBER

2634

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/895,614

Applicant(s)

WILLES ET AL.

Examiner

Eva Yi Zheng

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Amendment, filed 5/17/2005, with respect to the rejection(s) of claim(s) 2-5 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "101" in Fig. 1 has been used to designate both AC Power Line and E-Net USB Base. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-5 are rejected due to lack of antecedent basis. Claim recites the limitation "said AC power line". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simonsen et al. (US 2002/0031226) in view of Gray et al. (US 4,660,196).

a) Regarding claim 2, Simonsen et al. disclose a system for providing a communication data link, comprising:

(A) a base unit, having a modulator and a demodulator (as shown in Fig. 10 and 11);

(B) an extension unit (inherent as networked computation devices), having a modulator and a demodulator (as shown in Fig. 10 and 11); and

(C) a power line communication channel connecting said base unit with said extension unit (1016 in Fig. 10; abstract);

wherein said modulator of said base unit further comprises:

(1) an encryptor (1003 in Fig. 10);

(2) an encoder electrically connected to said encryptor (1008 in Fig. 10);

- (5) a channel mapper electrically connected to said differential encoder (1010 in Fig. 10);
- (6) a specific modulator electrically connected to said channel mapper (1011 in Fig.10);
- (7) an upsampler and filter electrically connected to said specific modulator (1014 in Fig. 10);
- (8) an upconverter electrically connected to said upsampler and filter (1012 in Fig.10);
- (9) a D/A converter electrically connected to said upconverter (1013 in Fig. 10);
- (10) a power coupler electrically connected to said D/A converter (inherent as 1015 in Fig.10); and
- (11) a connector connecting said power coupler to said AC power line (1016 in Fig.10).

Simonsen et al. disclose all the subject matters describe above except for the specific teaching of an interleaver electrically connected to said encoder; and a differential encoder electrically connected to said interleaver.

Gray et al., in the same field of endeavor, teaches a digital communication system comprise encoder, differential encoder, bit interleaver and FEC encoder (as shown in Fig. 1). It is well know that all these components are typical and essential in digital communication system. Therefore, it is obvious to one of ordinary skill in art to combine the encoder, different encoder and interleaver by Gray et al. in Simonsen et al.'s system. By doing so, maintain signal high quality and transmission accuracy.

b) Regarding claim 3, Simonsen et al. disclose a system for providing a communication data link, comprising:

- (A) a base unit, having a modulator and a demodulator (as shown in Fig. 10 and 11);

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(B) an extension unit (inherent as networked computation devices), having a modulator and a demodulator (as shown in Fig. 10 and 11); and

(C) a power line communication channel connecting said base unit with said extension unit (1016 in Fig. 10; abstract);

wherein said modulator of said extension unit further comprises:

(1) an encryptor (1003 in Fig. 10);

(2) an encoder electrically connected to said encryptor (1008 in Fig. 10);

(5) a channel mapper electrically connected to said differential encoder (1010 in Fig. 10);

(6) a specific modulator electrically connected to said channel mapper (1011 in Fig.10);

(7) an upsampler and filter electrically connected to said specific modulator (1014 in Fig. 10);

(8) an upconverter electrically connected to said upsampler and filter (1012 in Fig.10);

(9) a D/A converter electrically connected to said upconverter (1013 in Fig. 10);

(10) a power coupler electrically connected to said D/A converter (inherent as 1015 in Fig.10); and

(11) a connector connecting said power coupler to said AC power line (1016 in Fig.10).

Simonsen et al. disclose all the subject matters describe above except for the specific teaching of an interleaver electrically connected to said encoder; and a differential encoder electrically connected to said interleaver.

Gray et al., in the same field of endeavor, teaches a digital communication system comprise encoder, differential encoder, bit interleaver and FEC encoder (as

shown in Fig. 1). It is well known that all these components are typical and essential in digital communication system. Therefore, it is obvious to one of ordinary skill in art to combine the encoder, differential encoder and interleaver by Gray et al. in Simonsen et al.'s system. By doing so, maintain signal high quality and transmission accuracy.

c) Regarding claim 4, Simonsen et al. disclose a system for providing a communication data link, comprising:

(A) a base unit, having a modulator and a demodulator (as shown in Fig. 10 and 11);

(B) an extension unit (inherent as networked computation devices), having a modulator and a demodulator (as shown in Fig. 10 and 11); and

(C) a power line communication channel connecting said base unit with said extension unit (1016 in Fig. 10; abstract);

wherein said demodulator of said base unit further comprises:

(1) a power line coupler electrically connected to said AC power line (1102 in Fig. 11);

(2) an A/D converter electrically connected to said power line coupler (1105 in Fig. 11);

(4) a down sampler electrically connected to said IF to baseband converter (1106 in Fig. 11);

(5) specific demodulator electrically connected to said down sampler (1108 in Fig. 11);

(6) a channel demapper electrically connected to said specific demodulator (inherent as channel estimator 1109 in Fig. 11);

(8) a decoder electrically connected to said differential decoder (1110 in Fig. 11); and

(9) a decryptor electrically connected to said decoder (1114 in Fig. 11).

Simonsen et al. disclose all the subject matters describe above except for the specific teaching of an IF to baseband converter electrically connected to said A/D converter; and a differential decoder electrically connected to said channel demapper.

Gray et al., in the same field of endeavor, teaches a digital communication system comprise a down-converter and differential decoder (as shown in Fig. 1). It is well know that all these components are typical and essential in digital communication system. Therefore, it is obvious to one of ordinary skill in art to combine the encoder, different encoder and interleaver by Gray et al. in Simonsen et al.'s system. By doing so, maintain signal high quality and reception accuracy.

d) Regarding claim 5, Simonsen et al. disclose a system for providing a communication data link, comprising:

- (A) a base unit, having a modulator and a demodulator (as shown in Fig. 10 and 11);
- (B) an extension unit (inherent as networked computation devices), having a modulator and a demodulator (as shown in Fig. 10 and 11); and
- (C) a power line communication channel connecting said base unit with said extension unit (1016 in Fig. 10; abstract);

wherein said demodulator of said extension unit further comprises:

- (1) a power line coupler electrically connected to said AC power line (1102 in Fig. 11);
- (2) an A/D converter electrically connected to said power line coupler (1105 in Fig. 11);
- (4) a down sampler electrically connected to said IF to baseband converter (1106 in Fig. 11);
- (5) specific demodulator electrically connected to said down sampler (1108 in Fig. 11);

- (6) a channel demapper electrically connected to said specific demodulator (inherent as channel est 1109 in Fig. 11);
- (8) a decoder electrically connected to said differential decoder (1110 in Fig. 11); and
- (9) a decryptor electrically connected to said decoder (1114 in Fig. 11).

Simonsen et al. disclose all the subject matters describe above except for the specific teaching of an IF to baseband converter electrically connected to said A/D converter; and a differential decoder electrically connected to said channel demapper.

Gray et al., in the same field of endeavor, teaches a digital communication system comprise a down-converter and differential decoder (as shown in Fig. 1). It is well know that all these components are typical and essential in digital communication system. Therefore, it is obvious to one of ordinary skill in art to combine the encoder, different encoder and interleaver by Gray et al. in Simonsen et al.'s system. By doing so, maintain signal high quality and reception accuracy.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Zheng whose telephone number is 571 272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Zheng
Examiner
Art Unit 2634

July 26, 2005



SHUWANG LIU
PRIMARY EXAMINER